

1.9 Extra Word Problems

1. The sum of two numbers is 120. Their difference is 14. What are the numbers?
2. The sum of three times a number and twice a second number is 44. Four times the second number exceeds twice the first number by 24. What are the numbers?
3. Jackson collected 70 coins, consisting of quarters and nickels. If the total value of the coins is \$9.50, how many of each type of coin does he have?
4. Peter collected \$3.25 in dimes and quarters on his paper route. The number of dimes is one more than twice the number of quarters. How many of each kind are there?
5. An investment club invested part of \$8000 at 10% annual interest and the rest at 12%. If the annual income from these investments is \$900, how much was invested at each rate?
6. Marcia, a lab technician, needs 300 litres of an 8% saline solution. She has a 5% saline solution and a 9% saline solution in the lab stock room. How many litres of the 5% and 9% solutions should she mix together?
7. Premium gasoline sells for 78.9 cents per litre. Regular gas sells for 71.9 cents per litre. To boost sales, a middle octane gasoline is formed by mixing premium and regular. If 1000L of this middle octane is produced, and is sold at 76.1 cents per litre, how much of each type of gasoline was used to in the mixture?
8. On a 430 km trip, Kim drove part of the way at 80 km/h and the rest of the way at 100 km/h. The trip took 5 hours. How much time did Kim travel at each speed?
9. Two cyclists start out at the same time from cities 180 km apart and travel toward each other. If one cyclist travels 5 km/h faster than the other and they meet after 4 hours, find their speeds.
10. A candy store is preparing a mixture of chocolate raisins and chocolate peanuts. The raisins sell for 2.25/kg and the peanuts for \$1.75/kg. How much of each type must be mixed to make 20kg of a mixture that sell for \$41?
11. A basketball coach bought 20 basketballs for a total of \$700. If the practice balls cost \$30 and the official balls used for games cost \$50, how many of each did the coach buy?
12. Twice Sari's age plus half her mother's age is 48. Three times Sari's age less half her mother's age is 27. How old are Sari and her mother?

Answers:

Q #	Equations	Answers
1)	$x + y = 120$ $x - y = 14$	$X = 67$ $Y = 53$
2)	$3x + 2y = 44$ $4y - 2x = 24$	$X = 8$ $Y = 10$
3)	$x + y = 70$ $0.05x + 0.25y = 9.50$	$X = 40$ $Y = 30$
4)	$x = 1 + 2y$ $0.10x + 0.25y = 3.25$	$X = 15$ $Y = 7$
5)	$x + y = 8000$ $0.10x + 0.12y = 900$	$X = 3000$ $Y = 5000$
6)	$x + y = 300$ $0.05x + 0.09y = 0.08(300)$	$X = 75$ $Y = 225$
7)	$p + r = 1000$ $0.789p + 0.719r = 0.761(1000)$	$p = 600$ $r = 400$
8)	$x + y = 5$ $80x + 100y = 430$	$x = 3.5$ $y = 1.5$
9)	$x = y + 5$ $x + y = 180/4$	$x = 25$ $y = 20$
10)	$x + y = 20$ $2.25x + 1.75y = 41$	$x = 12$ $y = 8$
11)	$x + y = 20$ $30x + 50y = 700$	$x = 15$ $y = 5$
12)	$2x + 0.5y = 48$ $3x - 0.5y = 27$	$x = 15$ $y = 36$